

path, dispensing a continuous film of the thermoplastic composition from a coating device at a coating temperature where the thermoplastic composition has a complex viscosity of less than about 500 poise at about 1000 radians/seconds at the coating temperature and a complex viscosity ranging from about 100 poise to about 1,000 poise at about 1 radian/second at the coating temperature, suspending the film between the coating device and the substrate, and contacting the film with the advancing substrate wherein the thermoplastic composition is released from the coating device at a temperature of less than about 160°C. It is undisputed that Sanftleben et al. fail to teach a method that includes suspending a continuous film of hot melt composition between a coating device and a substrate.

Boger et al. do not cure the deficiencies of Sanftleben et al. To establish obviousness based upon a proposed combination of references there must be some teaching, suggestion or motivation in the prior art for making the proposed combination. See Fromson v. Anitec Printing Plates, Inc., 132 F.3d 1437 (Fed. Cir. 1997), C.R. Bard Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352, (Fed. Cir. 1998). The prior art must also reveal a reasonable expectation of success to the skilled artisan. See, In re Vaeck, 947 F.2d 488, 493 (Fed. Cir. 1991). Boger et al. mention a number of methods for coating circuit boards, one of which is a "slit die" method. Boger et al. fail to teach or suggest anything about the properties of the compositions that can be coated using the "slit die" method. Accordingly, the skilled artisan would have no reasonable expectation that the compositions of Sanftleben et al. could be coated using a slit die method. For this reason alone the rejection of claim 10 under 35 U.S.C. § 103 over Sanftleben et al. in view of Boger et al. is unwarranted and should be withdrawn.

However, Boger et al. are further deficient in that they also disclose that there are a number of disadvantages associated with the slit die method including:

[V]ariations in coating thickness deposited and attendant coating film breakage; necking or drawing in at the film edges, causing 'railroading' or thickened film edges and non-uniform coatings.

Boger et al., col. 2, lines 58-62. Boger et al. thus teach away from using a slit die method. Accordingly, the skilled artisan would refrain from using the slit die method referred to in Boger et al. Applicants submit, therefore, that the rejection of claim 10

under 35 U.S.C. § 103 over Sanftleben et al. in view of Boger et al. is unwarranted and request that it be withdrawn.

Claims 3-6, 8, 11-12, 33, 35, 36, 39-42, 44, and 46-48 are patentable over the proposed combination of Sanftleben et al. and Boger et al. for at least the same reasons set forth above in distinguishing claim 10.

Claims 2-12, 33-36, 38-42, 44, and 46-56 stand rejected under 35 U.S.C. § 103 over EP 315,013 in view of Maletsky et al. (U.S. 4,939,202) or Miller et al. (U.S. 5,859,152) further in view of Smith et al. (U.S. 3,402,086) or Thomson et al. (U.S. 3,239,370) and optionally further in view of Buell (U.S. 4,147,580).

EP 315,013 discloses a method of making a diaper that includes contact coating a thermoplastic polymer material onto a web. In particular, EP 315,013 discloses applying a thermoplastic polymer material to a nonwoven web by means of a surface nozzle or an application roller.

Maletsky et al. disclose hot melt compositions. Maletsky et al. disclose that their blend has the "ability to be directly and uniformly coated and bonded to [a] nonwoven layer surface" (Maletsky et al., column 4, lines 38-40).

Miller et al. disclose a water dispersible adhesive composition.

Smith et al. disclose a hot melt extrusion coating process that includes extruding a random copolymer of ethylene and acrylic acid at a temperature of about 105°C to about 250°C in the form of a thin film that is deposited on a substrate.

Thomson et al. disclose a hot melt extrusion coating process that includes extruding a random copolymer of ethylene and acrylic acid at a temperature of 575°F in the form of a thin film and depositing the film on a substrate.

Buell et al. disclose applying a discontinuous hot melt adhesive to a porous fibrous web by direct contact extrusion.

Claim 10, as indicated above, discloses dispensing a continuous film of the thermoplastic composition from a coating device at a coating temperature, the thermoplastic composition having a complex viscosity of less than about 500 poise at about 1000 radians/seconds at the coating temperature and a complex viscosity ranging from about 100 poise to about 1,000 poise at about 1 radian/second at the coating temperature and suspending the film between the coating device and the substrate, the

thermoplastic composition being released from the coating device at a temperature less than 160°C. Neither EP 315,013 nor Maletsky et al. nor Miller et al. nor Buell nor any combination thereof teaches or suggests a noncontact coating method. EP 315,013, for example, discloses coating a nonwoven web using an application roller or a surface nozzle. The application roller cannot apply the thermoplastic polymer unless it is in contact with the web. Thus, EP 315,013 disclose a contact coating method. Applicants note that EP 315,013 does not explain what is meant by the use of the phrase "surface nozzle" therein. Applicants further note that, in contrast to the assertions at page 4, lines 19-20 of the January 17, 2002 Office action, EP 315,013 does not disclose "[a film] having been extruded from a 'surface nozzle'."

Maletsky et al. also disclose directly coating their blend on a nonwoven. See, Maletsky et al., column 4, lines 38-40 ("The present blend . . . has the ability to be directly and uniformly coated and bonded to [a] nonwoven layer surface").

It is undisputed that Buell fails to disclose a noncontact coating method. Applicants note that there is nothing in Buell that teaches or suggests that all contact coating methods inherently produce a discontinuous coating.

Smith and Thomson do not cure the deficiencies of EP315013, Maletsky et al., Miller et al. and Buell. Neither Smith nor Thomson teach or suggest that all thermoplastic compositions can be successfully coated using a noncontact coating method. To the contrary, Smith and Thomson disclose that polyethylene and olefin polymers and copolymers have been coated using a hot melt extrusion process that involves extruding a molten polymer through a "slit-die." Smith and Thomson further disclose that this process has numerous shortcomings. Smith and Thomson also disclose that they have overcome some of the problems of the prior art slit die coating methods by developing particular random copolymers of ethylene and acrylic acid. Smith and Thomson disclose that it is their particular random copolymers of ethylene and acrylic acid that work in their respective methods. The compositions of Maletsky et al. and Miller et al. are nothing like the ethylene acrylic acid copolymers of Smith and Thomson. Accordingly, the skilled artisan would have no reason to combine Smith or Thomson with Maletsky et al. or Miller et al. in the manner proposed in the Office action, and further would have no reasonable expectation of successfully forming a continuous film

from the compositions of Maletsky et al. or Miller et al. using the method of Smith or Thomson. The proposed combination of EP 315,013 in view of Maletsky et al. or Miller et al. further in view of Smith et al. or Thomson et al., and optionally further in view of Buell thus fails to teach or suggest the method of claim 10. Accordingly, Applicants submit that the rejection of claim 10 under 35 U.S.C. § 103 over EP 315,013 in view of Maletsky et al. or Miller et al. further in view of Smith et al. or Thomson et al. and optionally further in view of Buell is unwarranted and request that it be withdrawn.

Claims 2-12, 33-36, 38-42, 44, and 46-56 are patentable over the proposed combination of references for at least the same reasons set forth above in distinguishing claim 10.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103 over EP 315,013 in view of Maletsky et al. or Miller et al. further in view of Smith et al. or Thomson et al. further in view of Waggoner (U.S. 3,904,806) or U.K. 688,637.

Neither Waggoner nor U.K. 688,637 cure the above-described deficiencies of EP 315,013, Maletsky et al., Miller et al., Smith et al., Thomson et al. and Buell. Accordingly, Applicants submit that claims 3 and 4 are patentable under 35 U.S.C. § 103 over EP 315,013 in view of Maletsky et al. or Miller et al. further in view of Smith et al. or Thomson et al., optionally further in view of Buell, and further in view of Waggoner or U.K. 688,637, for at least the reasons set forth above in distinguishing claim 10.

Claim 55 stands rejected under the judicially created doctrine of obviousness-type double patenting over claim 18 of U.S. Patent No. 5,827,252 (the '252 patent) in view of EP 315,013.

Claim 55 is directed to a method of forming a continuous film layer that includes suspending the film such that the film builds in viscosity and cohesive strength such that any fibers of the nonwoven substrate do not penetrate the continuous film. Claim 18 of the '252 patent does not recite, "suspending a continuous film such that the film builds in viscosity and cohesive strength such that any fibers of a nonwoven substrate do not penetrate the continuous film." EP 315,013 does not cure the deficiencies of the '252 patent. EP 315,013 does not teach or suggest suspending a continuous film such that it builds in viscosity and cohesive strength such that any fibers of a nonwoven substrate do not penetrate the continuous film. Thus, the proposed combination of claim 18 of the

'252 patent in view of EP 315,013 lacks a required element of claim 55. Accordingly, Applicants submit that the rejection of claim 55 under the judicially created doctrine of obviousness-type double patenting over claim 18 of the '252 patent in view of EP 315,013 is unwarranted and request that it be withdrawn.

The claims now pending in the application are in condition for allowance and such action is respectfully requested. The Examiner is invited to telephone the undersigned if a teleconference interview would facilitate prosecution of this application.

Please charge any additional fees or credit any overpayment to Deposit Account No. 06-2241.

Respectfully submitted,

Date: May 9, 2002

Allison Johnson
Allison Johnson
Reg. No. 36,173
On behalf of H.B. Fuller Company

Allison Johnson, P.A.
6016 Logan Ave. S.
Minneapolis, MN 55419
Telephone (612) 861-8621
Facsimile (612) 861-8628